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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,457	09/11/2000	Paul Laurence Reynolds	RJENK15.001A	7342

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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

VO, NGUYEN THANH

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 03/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/581,457

Applicant(s)

REYNOLDS ET AL.

Examiner

Nguyen T Vo

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 11/22/2000 has been considered.

Drawings

2. The drawings are objected to because they should be provided with appropriate legends. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: service access node 100. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 1 is objected to because of the following informalities: "recourse" at line 7 should be changed to --resource--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 26-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 26, the recitation "the radio resource signalling data" lacks clear antecedent basis. In order to overcome this rejection, it is suggested that the above recitation should be changed to -- the radio resource signalling report--.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 30-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Ekman.

As to claim 30, Ekman discloses a method of transmitting radio resource signalling reports from a mobile station in a cellular communications system, comprising: transmitting the reports in the form of mobile-originating SMS messages (see column 6 lines 47-65).

As to claim 31, Ekman discloses a method of transmitting signalling reports from a mobile station MS1 to a cellular communications system comprising a plurality of base stations (BS1-BS3) including a base station serving the mobile station via a radio link, the method comprising: encapsulating a radio resource signalling report before transmission over the radio link, such as to prevent the serving base station from intercepting the radio resource signalling report (see column 6 lines 47-65). In this case,

since the signalling report is encapsulated in SMS message, it would prevent the serving base station from intercepting the radio resource signalling report as admitted by applicant on page 7 lines 19-22 of the present specification).

9. Claims 33, 36 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Luijten.

As to claim 33, Luijten discloses a cellular communication system comprising a plurality of base stations (1, 3) adapted to conducting communications with mobile stations 2 via a radio interface, and a service node 4 adapted to receive radio resource signalling reports generated by mobile stations when in connected mode in the system, the system being arranged to route the reports from the plurality of base stations to the service node (see page 19 line 14 to page 20 line 20).

As to claim 36, Luijten discloses that the service node is adapted to select radio access nodes to be allocated to the mobile stations on the basis of the reports (see page 19 line 14 to page 20 line 20).

As to claim 38, Luijten discloses that the base stations are adapted to select radio resources to be allocated to the mobile stations on the basis of radio measurement reports received from the mobile stations (see page 19 line 14 to page 20 line 20).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 21, 23, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten (WO 95/17076, submitted by applicant) in view of Schmidt (5,682,416, submitted by the examiner).

Regarding claim 21, Luijten discloses a method of transmitting signalling reports from a mobile station 2 to a serving base station 1 in a cellular communications system comprising a network infrastructure (see numeral 4) and a plurality of base stations (see base station 3) connected thereto, the method comprising the mobile station 2 transmitting a radio resource signalling report (see the first adjustment message on page 19 lines 14-22) intended for use by the serving base station 1 to allocate a radio resource to the mobile station, and transmitting a radio resource signalling report (see the second adjustment message on page 19 lines 14-22) intended for use by the service node 4 to allocate a radio resource to the mobile station (see page 3 lines 1-24, page 9 lines 20-27, page 12 lines 17-24, page 19 line 14 to page 20 line 20). Luijten

thus discloses all the claimed limitations except for transmitting radio measurement reports intended for use by the serving base station 1 as recited in the claim. Schmidt discloses a method of transmitting signalling reports from a mobile station (see MU 80 in figure 3A) to a serving base station (see BTS 21 in figure 3A) in a cellular communications system comprising a network infrastructure (see numerals 50, 60, 70) and a plurality of base stations (see BTS 22-24 in figure 3A) connected thereto, the method comprising transmitting radio measurement reports intended for use by the serving base station to allocate a radio resource to the mobile station (see column 3 lines 52-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Schmidt to Luijten, because by reporting signal measurement from the mobile station to the base station, the handoff procedure would be greatly improved.

As to claim 23, since the mobile station reports signal measurement to the serving base station as disclosed at column 3 lines 64-67, it would be inherent that the mobile station transmits the radio resource signalling report occurs during a dedicated channel traffic connection for the mobile station.

Regarding claim 32, it is rejected for the same reasons as set forth in claim 21 above.

13. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten and Schmidt as applied to claim 21 above, and further in view of Ekman (5,960,355, submitted by the examiner).

As to claim 22, the combination of Luijten and Schmidt fails to disclose encapsulating the radio resource signalling reports in the form of a mobile-originating SMS message as recited in the claim. Ekman discloses encapsulating the radio resource signalling reports in the form of a mobile-originating SMS message (see column 6 lines 47-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Ekman to the above combination, in order to reduce the traffic load in the system (because the radio resource signalling reports are now encapsulated in the form of a mobile-originating SMS message).

14. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten and Schmidt as applied to claim 21 above, and further in view of the prior art of figure 1 as admitted by applicant on page 4 line 13 to page 7 line 22 of the present specification.

As to claims 24-25, the above combination of Luijten and Schmidt does disclose that the radio resource signalling report comprises signal strength data measured for neighboring cell base station (see Schmidt, column 3 lines 61-66). The above combination, however, fails to disclose that the radio resource signalling report comprises downlink quality data measured for the serving base station, and that the radio resource signalling report comprises signal strength data measured for neighboring cell base stations. The admitted prior art disclose that the radio resource signalling report comprises downlink quality data measured for the serving base station, and that the radio resource signalling report comprises signal strength data measured

for neighboring cell base stations (see the present specification, page 7 lines 3-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of the admitted prior art to the above combination, in order to improve the handoff procedure by selecting a base station with the best measured signal strength.

15. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten and Schmidt as applied to claim 21 above, and further in view of Mayrand (5,504,939, submitted by the examiner).

As to claims 26-27, the above combination of Luijten and Schmidt fails to disclose the radio resource signalling data comprises data specifying the current requirements of the mobile station comprises at least one of bandwidth signal-to-noise ratio, radio path loss, cost and quality of service requirements. Mayrand discloses the radio resource signalling data comprises data specifying the current requirements of the mobile station comprises at least one of bandwidth signal-to-noise ratio, radio path loss, cost and quality of service requirements (see column 6 line 21 to column 7 line 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Mayrand to the above combination, in order to optimize the service provided to a subscriber within the system (as suggested by Mayrand at column 2 lines 16-23).

16. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten and Schmidt as applied to claim 21 above, and further in view of Andersson (5,594,949, submitted by the examiner).

As to claims 28-29, the above combination of Luijten and Schmidt fails to disclose that the transmitting the radio resource signalling report occurs in response to a request from the cellular communications system, or that the transmitting the radio resource signalling report occurs in response to a request from the user as recited in the claims. Andersson discloses that the transmitting the radio resource signalling report occurs in response to a request from the cellular communications system (see column 6 lines 15-25, lines 51-61), or that the transmitting the radio resource signalling report occurs in response to a request from the user (see column 6 line 62 to column 7 line 7. In this case, since the mobile station transmits signal report when it makes origination access, the mobile station transmits the radio resource signalling report occurs in response to a request from the user). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Andersson to the above combination, in order to report the signal measurement as wanted by the system or the user (as suggested by Andersson).

17. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten in view of the prior art of figure 1 as admitted by applicant on page 4 line 13 to page 7 line 22 of the present specification.

As to claim 34, Luijten fails to disclose that the radio resource signalling report comprises at least one of downlink quality data measured by the mobile stations and neighbor cell signal strength data measured by the mobile stations. The admitted prior art disclose that the radio resource signalling report comprises downlink quality data measured for the serving base station, and that the radio resource signalling report

comprises signal strength data measured for neighboring cell base stations (see the present specification, page 7 lines 3-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of the admitted prior art to Luijten, in order to improve the handoff procedure by selecting a base station with the best measured signal strength.

18. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten in view of Mayrand (5,504,939, submitted by the examiner).

As to claim 35, Luijten fails to disclose that the radio resource signalling reports comprise data specifying bandwidth and at least one of cost and quality of service requirements for the mobile stations. Mayrand discloses that the radio resource signalling reports comprise data specifying bandwidth and at least one of cost and quality of service requirements for the mobile stations (see column 6 line 21 to column 7 line 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Mayrand to Luijten, in order to optimize the service provided to a subscriber within the system (as suggested by Mayrand at column 2 lines 16-23).

19. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ekman in view of Luijten as applied to claim 36 above and further in view of Mayrand.

As to claim 37, the combination of Ekman and Luijten fails to disclose that the radio resource signalling reports comprise data specifying bandwidth and at least one of cost and quality of service requirements for the mobile stations. Mayrand discloses that the radio resource signalling reports comprise data specifying bandwidth and at least

one of cost and quality of service requirements for the mobile stations (see column 6 line 21 to column 7 line 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Mayrand to the above combination, in order to optimize the service provided to a subscriber within the system (as suggested by Mayrand at column 2 lines 16-23).

20. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten in view of Barnett (5,428,816).

As to claim 39, Luijten fails to disclose that the system is adapted to transmit a request for the one of the reports to one of the mobile stations in response to a change in the service conditions for the one mobile station. Barnett discloses that the system is adapted to transmit a request for the one of the reports to one of the mobile stations in response to a change in the service conditions for the one mobile station (see column 1 lines 39-49. In this case, a change in the service conditions for the one mobile station as claimed reads on a certain drop in the signal level of the mobile station). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Barnett to Luijten, in order to reduce the traffic load from the mobile station because the mobile station only reports the signal measurement when there is a certain drop in the signal level of the mobile station.

21. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luijten in view of Ekman (5,960,355, submitted by the examiner).

As to claim 40, Luijten fails to disclose means for extracting the radio resource signalling reports from SMS messages received from the mobile stations as recited in

the claim. Ekman discloses encapsulating the radio resource signalling reports in the form of a mobile-originating SMS message (see column 6 lines 47-65). Since the radio resource signalling reports is encapsulated in the form of a mobile-originating SMS message, it would inherently Ekman discloses means for extracting the radio resource signalling reports from SMS messages received from the mobile stations. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Ekman to the above combination, in order to reduce the traffic load in the system (because the radio resource signalling reports are now encapsulated in the form of a mobile-originating SMS message).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bergkvist (5,822,696) discloses inter-MSC handoff.

Dufour (5,850,604) discloses that **origination access is made by the user** (see column 5 lines 30-32).

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T Vo whose telephone number is (703) 308-6728. The examiner can normally be reached on Monday-Friday and alternate Monday from 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703)308-6739. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 872-9314 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Nguyen Vo

March 3, 2003

A handwritten signature in black ink, appearing to read "Nguyen Vo", with a stylized flourish at the end.

NGUYEN T. VO
PRIMARY EXAMINER